REMARKS/ARGUMENTS

Claims 1-11 are pending herein. Claim 1 has been amended to incorporate the content of dependent claim 4. Dependent claim 4 has been cancelled without prejudice or disclaimer. Claim 5 has been amended to depend from claim 1. Applicants respectfully submit that no new matter has been added.

1. The objection to claims 1 and 4 is noted, but deemed moot in view of the amended claims submitted above.

2. The objections to the Abstract and specification are noted, but deemed moot in view of the amendments to the Abstract and specification submitted above.

3. Claims 1-3 and 6-11 were rejected under §103(a) over Kato in view of Yamada, and claims 4 and 5 were rejected under §103(a) over Kato in view of Sugiyama [sic, Kato in view of Yamada and Sugiyama]. To the extent these rejections may be applied against the amended claims, they are respectfully traversed.

Kato discloses a gas sensor including a gas introducing hole proximate to an end of the gas sensor, first and second spaces with first and second diffusion rate sections for introducing a measurement gas, and means for generating an electric signal for the amount of NOx in the measurement gas and reducing the NOx component of the measurement gas.

Yamada discloses an oxygen sensor that includes a sensor element, a gas diffusion chamber and an oxygen (gas) pump element. In the oxygen sensor of Yamada, the dimensions of the gas diffusion chamber with respect to the dimensions of the oxygen sensor are set to prevent the oxygen sensor from cracking due to thermal stress caused by the rapid increase in temperature of the heater element.

Sugiyama discloses a gas sensor in which the dimensional relationship between the reference gas chamber within the gas sensor and the heating element are set to

prevent the occurrence of cracks in the gas sensor element due to thermal stress caused by the rapid increase in temperature of the heater element.

Claim 1 has been amended to incorporate the content of claim 4. Amended claim 1 is distinguishable from the applied references, because Kato is silent as to the claimed dimensional relationships, Yamada fails to disclose or suggest a dimensional relationship between the oxygen sensor and the width of the gas introducing hole that satisfies the claimed La/We ratio, and Sugiyama fails to teach or suggest a dimensional relationship between the oxygen sensor and the space for introducing a measurement gas sufficient to satisfy the claimed Wc/We ratio.

Further, the purpose of the gaps between the sensor edges in the present invention is to maintain the temperature of the first space and second space when the measurement gas is passed from the second space to the reference gas introducing space. This prevents the thin zirconia portion of the gas sensor between the second space and the reference gas introducing space from cracking due to cooling too rapidly when the measurement gas is passed from the second space to the reference gas introducing space, while not causing any additional thermal stress in other areas of the sensor (please see page 31 of the specification). Since the purpose of the heater element to sensor edge gaps in Sugiyama and Yamada are completely different from the purpose of the gaps in the present invention, Sugiyama and Yamada fail to teach, suggest or render obvious the claimed ratios.

For at least the foregoing reasons, Applicants respectfully request that the above rejections be reconsidered and withdrawn.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

April 24, 2007
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